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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,519	12/20/2005	Tetsuji Hirano	8007-1102	6376
466 7590 08/18/2009 YOUNG & THOMPSON 209 Madison Street Suite 500 ALEXANDRIA, VA 22314			EXAMINER GODENSCHWAGER, PETER T	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 08/18/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/561,519

Applicant(s)

HIRANO ET AL.

Examiner

PETER F. GODENSCHWAGER

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,9-11,13,26,27 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) 26 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,9-11,13 and 29-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 5, 2009 has been entered.

Applicant's reply filed August 5, 2009 has been fully considered. Claims 1, 3-5, 9-11, 13, 26 and 27 are amended, claims 29-32 are new, claims 1, 3-5, 9-11, 13, 26, 27, and 29-32 are pending, and claims 26 and 27 are withdrawn from consideration.

Election/Restrictions

Applicant's traversal of the constructively elected claims in the reply filed on August 5, 2009 is acknowledged. The traversal is on the ground(s) that the technical feature defines a contribution over the prior art, specifically the ion conductor comprising a mixture of 2-ethyl-4-methylimidazole and 4-methylimidazole. This is not found persuasive because the technical feature as originally presented in [0009] of Applicant's original specification, and claim 14 of the claims filed December 24, 2008 require only a single base component, 2-ethyl-4-methylimidazole, that is anticipated by Warren as set forth in the restriction requirement mailed April 6, 2009.

The requirement is still deemed proper and is therefore made FINAL.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on applications filed in Japan on July 11, 2003. However, certified copies of the priority documents have not been received from the International Bureau (PCT Rule 17.2(a)).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-5, 9-11, 13, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (US Pat. No. 3,356,645) in view of Olson (US Pat. No. 5,508,328).

Regarding Claims 1, 13, and 30: Warren teaches a salt of an imidazole (a mixture of a base (imidazole) and an acid) (2:36-58). Warren further teaches the imidazole is 2-ethyl-4-methylimidazole, and that mixtures of imidazoles can be used (3:1-15).

Warren does not teach 4-methylimidazole. However, Olson teaches salts of 4-methylimidazole (mixture of acid and a base) as a curing agent for curing epoxy resins (5:30-60). Warren and Olson are analogous art because they are concerned with the same field of endeavor, namely curing of epoxy resins with imidazole salt curing agents. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the 4-methylimidazole salt of Olson with the 2-ethyl-4-methylimidazole salt of Warren and would have been motivated to do so because Warren teaches that mixtures of imidazoles can be used (3:1-15), and both

compounds are known individually to be effective curing agents for epoxy resins, and therefore one would have a reasonable expectation of success in forming a third composition comprising a combination of the two, see MPEP 2144.06:

MPEP 2144.06 Art Recognized Equivalence for the Same Purpose

COMBINING EQUIVALENTS KNOWN FOR THE SAME PURPOSE

"It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art."

Warren does not teach the composition is an ion conductor having an ion conductivity of 10^{-4} Scm^{-1} or higher at 100° C . However, the references render obvious all of the claimed ingredients of the composition. Therefore, the claimed physical properties would inherently be achieved by the composition as claimed and rendered obvious. If it is the applicant's position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Regarding Claims 3, 5, and 32: Warren further teaches that the imidazole salts are usually liquids or very low melting solids (2:29-32). The Examiner recognizes that all of the claimed physical properties are not positively taught by the references, namely the melting point of the composition and the glass transition temperature. However, the references render obvious all of the claimed ingredients of the composition. Therefore, the claimed physical properties would inherently be achieved by the composition as claimed and rendered obvious. If it is the applicant's position that this would not be the case: (1) evidence would need to be presented to

support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

Regarding Claims 4 and 31: Warren further teaches that the imidazole and acid is mixed in a 1:1 ratio (3:25-27).

Regarding Claims 9-11: Warren further teaches acids that are structurally free of fluorine such as the inorganic acid phosphoric acid (2:50-60).

Regarding Claim 29: Warren does not teach the mixtures of imidazoles in a 1:1 ratio. However, it is common practice in the art to optimize the relative amounts of result effective variables such as the relative amounts of curing agents (see MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the relative amounts of the mixture of imidazoles and would have been motivated to do so to optimize the curing speed and pot life of the composition (1:65-2:12).

Response to Arguments

Applicant's arguments filed August 5, 2009 have been fully considered but they are not persuasive.

Applicant argue that MPEP 2144.06 (specifically relating to *in re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980)) requires that when combining equivalents known to be useful for the same purpose to form a third composition, the third composition must be formed to be used for the very same purpose. In this case, both Warren and Olson relate to curing agents for epoxy resins and would be combined to form a third composition that would also relate to a curing

agent for epoxy resins, which is a composition used *for the very same purpose* as the original compositions of Warren and Olson. It is also noted that a recitation of the intended use (in this case the use as an ion conductor) of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim, and therefore Warren and Olson need not teach that the composition is an ion conductor.

Applicant further argues that both Warren and Olson fail to teach the ion conductivity properties of the resulting mixture. However, a chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655, (Fed. Cir. 1990). See also *In re Best*, 562 F.2d 1252, 195 USPQ 430, (CCPA 1977). “Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established.”

Applicant argues unexpected results with regards to the combination of 2-ethyl-4-methylimidazole and 4-methylimidazole and cites Example 1, Example 2, and Comparative Example 1 of the instant specification for evidence of the unexpected results. However, while Example 1 contains 2-ethyl-4-methylimidazole and 4-methylimidazole, there is no example or data for compositions containing either 2-ethyl-4-methylimidazole or 4-methylimidazole by themselves. Therefore, there is no evidence that the combination of the two imidazoles provides for unexpectedly better properties than either of the two imidazoles by themselves.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/P. F. G./
Examiner, Art Unit 1796
August 10, 2009